

CONTRIBUTION

TO THE

ICHTHYOLOGY OF AUSTRALIA.

VI.—NOTES ON FISHES FROM KNOB ISLAND.

The following species were contained in a small bottle purchased from a sailor, who said they came from Nob or Knob Island, in the north of Australia. I am unable to find out where this is situated, but I am inclined to believe that it may be one of the numerous islands of Torres Straits, as the sorts have a decided tropical appearance.

NEOMYRIPRISTIS.

This genus, by its large eyes, its opercular bones serrated ; its spiny operculum, its præopercular without a spine ; its large scales ; its two dorsals scarcely united ; its ventrals with seven rays ; its forked caudal, and its four spines at the anal, comes very near to *Myripristis*, but its dentition is different, being composed of a simple series of small, sharp, arched teeth on each jaw ; it has also transverse series of sharp teeth on the vomer and palatines.

The snout is prominent and like gibbous, which gives it a singular appearance ; the upper part of the head presents the singular sculptures which are also observable in *Myripristis* and *Holocentrum* ; they are formed of ridges which have on the top of the head the form of a very long quadrilateral ; behind this, on each side, there is a bunch of ridges which are disposed in a radiated and rather palmated way ; over the

orbit other ridges are apparent, they form an angle a little in front of the centre of the eye, and then are directed obliquely to the anterior end of the above-mentioned quadrilater.

NEOMYRIPRISTIS AMÆNUS.

Height three times in total length ; head three and two-thirds in same ; eye twice and one-third in the length of the head ; the general profile is oval, but the one of the anterior part of the head is very convex and the snout protrudes considerably over the mouth ; the lower jaw is rather longer than the upper one ; the maxillary is striated and extends to the perpendicular from the centre of the orbit ; the infraorbital is serrated ; the præoperculum is very strongly serrated, as is also the operculum, which has a rather long spine, below which are two shorter ones, and over the long spine is a rather deep indentiture or deep cut, surmounted by a spine of moderate length ; the lateral line extends all along the back, at a little less than one-fourth the height of the body ; it runs over thirty-five series of scales, which are all very strongly serrated ; on the transverse line the scales number nine, on the middle of the fourth runs the lateral, forming a ridge on each.

The dorsal fin is formed of ten spines ; the first is about one-third shorter than the second, which is the longest ; the others go gradually in, decreasing ; the second dorsal is almost united with the first ; it has a rather long spine and fifteen rays ; this fin is about as long as the highest spines. Caudal with nineteen rays ; anal formed of four spines and fourteen rays ; the first spine is very short, the second more than twice as long, the third very broad, straight, nearly three times as long as the precedent ; the fourth not quite so long and much more slender ; the ventrals have a rather long, slender, and arched spine and seven rays ; they are placed a little behind the pectorals, and are longer than them. Pectorals of fourteen rays.

This little fish must have been very brilliant ; after preservation in liquor, it is of a golden shiny colour, with the back grey ; the head and fins of a bright yellow ; the spines of

the first dorsal are rather obscure. I have several specimens which measure about two inches and a quarter.

PRIACANTHUS BLEEKERI.

Form oval, very compressed ; the anus is placed nearer to the extremity of the snout than to the base of the caudal. Height of body two and eight-tenths times in the total length ; head three times and a quarter in the same ; eye twice in the length of the head ; lower jaw much longer than the upper one, and forming a prominent chin ; maxillaries extending a little further than over the first third of the orbit ; body and head entirely covered with very minute and rough scales ; præoperculum serrated and armed with a very strong acute spine at its lower angle ; this spine extends further backwards than the margin of the operculum, and this is serrated on its inferior part, and forms a strong angle over the insertion of the pectoral. The lateral line follows the profile of the back, and is formed by a succession of rather larger and keeled scales. Dorsal with ten spines ; the first is much shorter than the second, and this a little more so than the third, which is the longest, and from thence, the others go gradually decreasing in height ; they are all very finely barbed on their margins. The soft rays number eleven, and are longer than the last spines ; caudal rounded, of seventeen rays (in counting one strong but shorter one on each side) and of several small ones. Anal formed of three strong spines, these are arched and nearly equal in length, the last being somewhat the longest and broadest ; the first and third are striated and barbed ; the rays number thirteen and are similar to the dorsal ones.

The ventrals are very large, composed of a strong crenulated spine and of five rays ; this fin extends over the base of the first of the free spines I mentioned. The pectorals are small, formed of two single spine-like rays, the first of which is short and of fifteen rays ; the dorsal and anal are received in a deep sheath of the back ; the teeth are viliform and very small on the upper jaw ; on the lower one they are larger, conical, disposed on one series and rather far apart, one from the other.

The colour is uniform, of a golden hue, with the membranes of the spiny dorsal obscure ; anal and ventrals also obscure. In the living state it was probably very beautiful and perhaps scarlet.

The specimen is three and a quarter inches long.

By its long præopercular spine, this sort must come near *Priacanthus Holocentrum*, of Bleeker.

NEOCIRRHITES.

Very nearly allied to *Cirrhit*es, but having palatine teeth and the præoperculum armed with spines. These characters bring it near Dr. Bleeker's genus *Cirrhitichthys*, but it has canines only at the lower jaw, and none on the upper one, and its viliform teeth even are only visible in front.

The lower jaw is crowded with small sharp viliform teeth, and presents strong canines, curbed backwards ; they are placed far apart one from the other, one on each side in front, and two backwards.

The lower rays of the pectorals are simple and few.

In following strictly the method, this fish, by its armed præoperculum and its palatine and vomer teeth, ought to be put with the *Percidæ*, but its natural place is evidently with *Cirrhit*es.

NEOCIRRHITES ARMATUS.

Form broad, oval, compressed, upper profile equally and very strongly convex ; height a little over twice and a third in the total length of the fish ; head four times in the same ; eye twice and a half in the length of the head ; upper jaw a little longer than the lower one ; lips thick ; cheeks covered with very minute scales ; præoperculum with its edge rounded and armed with a series of rather long spines, which do not extend to the lower portion ; operculum covered with large scales similar to those of the body ; it is entire, but has a strong notch superiorly, and is considerably advanced over the base of the pectorals ; the suprascapula is serrated ; the body is covered with rather large scales ; these are entire on their edge, and number forty-three on the longitudinal line and

sixteen on the transverse one ; the lateral line which passes over the seventh extends regularly to the base of caudal ; the dorsal has ten strong spines of about equal length, except the first, which is much shorter than the others, and thirteen rays ; the caudal is not complete, but appears rounded ; it has fifteen long rays and several small ones on each side ; the anal has three strong spines, the first is the shortest and the second the longest ; but the third is nearly equal to the last ; the ventrals are well developed and have one rather long spine and five rays ; the pectorals are large ; they have nine branched rays and six simple ones ; these are thick and longer than the others ; they extend as far as the extremity of the ventrals ; the dorsal is received in a scaly sheath of the back, in which the spines lay alternately, forming two rows.

The general colour is of a light yellowish brown, with the back darker ; the only specimen is two inches long.

SPHYRÆNA COMMERSONII.

Syphræna Commersonii, *Cuv. and Val.*, vol. iii., p. 352.

Young specimen four inches long.

CARANX VALENCIENNEI.

The præoperculum is very lightly serrated, which would place this sort in the genus *Carangichthys*, but this character being so feebly marked, and only visible on the membranous part, I consider it advisable to leave it in *Caranx*, and it then has to be placed with those which have none of the rays detached from the rest of the fins, neither at the dorsal or at the anal ; the first dorsal developed, and none of the rays elongate ; teeth on the palate, those on the jaws small, on a viliform band, with an outer series of external longer ones ; height of body more than one-fourth of the total length ; it would thus be a *Caranx* for Dr. Bleeker, but differs from most of the known sorts by the greater height of the body, and its short maxillaries.

The height of the body is contained twice and two-thirds in the total length ; the head three times and two-thirds in

the same ; the orbit three times and three-fourths in the length of the head ; the snout is a little longer than the diameter of the orbit ; the lower jaw is longer than the upper one ; the maxillaries are far from extending to the vertical of the anterior margin of the eye. The lateral line curves behind the pectorals, and its arched portion is contained once and two-thirds in the straight one ; the carinated plates of which it is formed on this part go increasing in height to the base of the tail, and then grow smaller to the end ; the body is covered with minute scales, which extend on the breast. The first dorsal is received in a sheath of the back, it is formed of eight rays ; the second dorsal is composed of a spine and twenty-three rays ; the caudal of eighteen long rays and eight or nine shorter ones on each side ; the anal has two front detached short spines, forming a short fin ; the anal proper is composed of one spine and twenty rays ; the pectoral is nearly as long as the head, arched, and formed of sixteen rays.

The straight portion of the lateral line is formed of about forty-six shields ; the greatest height of the body is just behind the two detached spines of the anal ; on each side of the tail, near the base of the caudal, there is a short oblique ridge.

The colour is (in spirits) entirely gilt, with the upper parts of a light blue ; no spot on the operculum ; fins of a bright yellow. I have several specimens, the largest is not quite four and a half inches long.

Dr. Gunther has in several places changed names of species dedicated to the celebrated French Ichthyologist in *Valensiennesii*, but this is not only useless but disfigures entirely the name, as the terminal *s* is not pronounced in French.

NOTA.—This sort comes very near to *Caranx Lepturus* of Agassiz, in *Spix. Pisc. Bras.*, p. 106, pl. lvi., *b*, fig. 2, and only seems to differ from it by the maxillaries, which are much shorter in my new sort, and the ventrals, which are represented in the plate as inserted more forward.

ACRONURUS FORMOSUS.

The genus *Acronurus* of Gunther is particularly distinguished from *Acanthurus*, by the absence of scales, and by the skin of the body being covered with very fine vertical striæ.

The four known sorts included in this division are all from the Indian Ocean ; several of the species present the same disposition of colours we have to record here, but the proportions of the body do not allow this species to be placed with either, except *Melanurus*, of which it is easily distinguishable.

Height of body being three-fifths of the length without the caudal fin, or once and eight-tenths of the total length. The head is contained three times and one-third in the same, and the eye twice and two-thirds in the head.

The body is very compressed, forming a broad oval ; the anterior profile of the head is convex ; the crest over the orbit is serrated ; the lateral line is elevated, forming a ridge sinuous and curved strongly downwards towards the end on the dorsal, to arch a little over the caudal spine ; it extends to the base of the caudal in running a little lower than the middle of the tail ; on this last part the fine transverse ridges take the form of regular scales ; the movable spine is rather arched.

The dorsal has nine spines, the first of which is short and the second much broader than all the others, and sulcated in the middle ; they are all of about the same length except the first ; the soft rays number thirty ; the caudal is bifurcated ; it is formed of sixteen long rays and of several short ones on each side ; the anal is formed of three spines and of twenty-seven rays ; the first spine is large, broad, and arched, and presents the same sulcated appearance as the second of the dorsal. The ventrals have a strong spine and six rays ; the pectorals are as long as the head, formed of one very short and of another long simple ray and of fourteen branched ones.

The colour, after preservation in spirits, is of a fine reddish brown ; with all the anterior part, comprising the head and all the portion extending to behind the insertion of the pectorals, of a fine golden colour ; the fins are similar ; the

caudal of the general colour of the body, with its sides golden ; on the back there are four series of large rounded black blotches.

I have five specimens, the largest of which is two and a half inches long ; on the smaller specimens one inch long ; the anterior part of the head and body are brown, and the black blotches of the body are not visible.

This sort must be very nearly allied to *Acanthurus Orbicularis*, Cuv. and Val., but the proportions of the body are different ; the caudal of their species is truncated, and the lateral line is described as impressed.

AULOSTOMA CHINENSE.

Fistularia Chinensis, *Bloch*, pl. 388.

Aulostomus Chinensis, *Lacép.*, v., p. 357.

Aulostoma Chinense, *Schleg.*, *Richard.*, *Gunther*.

The head, from the anterior edge of the eye to the end of the operculum, is contained a little over twice in the space from that edge to the end of the snout ; the lateral line is formed of a rather irregular interrupted ridge. The colour is uniformly brown without any spots ; there is a barbel at the end of the maxillary, and another on the chin ; this is very convex.

I have searched very minutely for teeth, but cannot find any. I am not certain that this sort is the one figured by *Bloch*.

Several specimens from six to seven inches long.

FISTULARIA SERRATA.

Fistularia Serrata, *Cuv. Règne Animal*, vol. ii., p. 267.

————— *Gunther, Cat.*, vol. iii., p. 533.

————— *Tabaccaria*, *White, New South Wales*, p. 296, fig. 2.

————— *Immaculata*, *Cuv. Règne Animal*, vol. xi., p. 267.

Two specimens of this curious fish are in the collection ; they have both lost the posterior part of their body, and have

evidently been taken out of the stomach of some voracious sort. The length of the snout, up to the anterior margin of the eye, contains three times and a third the one from that margin to the end of the operculum.

SCOPELUS CUVIERI.

This sort would come in the division having the anal fin with more rays than the dorsal ; eye more than one-third the length of the head ; no spine over the orbit ; scales denticulated (subgenus *Dasyscopelus*, Gunther) ; it appears to differ from the two species included in this division, by the greater length of the pectorals, but comes very near to Dr. Richardson's *Myctophum Asper* (*Scopelus Asper* Valenciennes).

Height of body contained three times and eight-tenths in the total length ; head four times in the same ; eye twice in the length of the head.

The highest part of the body is just behind the insertion of the pectorals ; the profile of the anterior part is very convex ; the nostrils are large and inflated ; the lower jaw is longer than the upper one ; the teeth are numerous and viliform ; the maxillaries are very long and almost reach the end of the præoperculum ; they are slender, but become gradually rather broader behind, where they are rounded, and end rather obliquely ; the eye is very large ; the scales are very strongly ciliated on their margin ; very large ones extend over the two operculums ; on the lateral line they are very broad, and number forty or forty-one. These scales have a short ridge on their anterior part, but those on the anterior portion of the body present only a very faint trace of it.

The dorsal is placed considerably nearer to the snout than to the base of the caudal ; it is formed of two short spines and of ten rays ; the first spine is much shorter than the second ; the caudal is strongly forked, and has nineteen long rays and several short ones on each side ; the anal has two short spines and seventeen rays ; the ventrals have eight rays ; the pectorals are twice as long as the ventrals and extend backwards as far as these do ; they have seventeen rays.

The ventrals are placed rather in advance of the dorsal, and the anal behind the end of it. The adipose is broad, arched, pointed, and placed above the end of the anal; towards the middle of the spine, between the anal and the root of the caudal, two sharp spines are seen on the lower profile.

The general colour of the specimens which have been in spirits is of a dark brown where the scales have fallen, which takes place very easily, but where they exist, it is of a most brilliant irridated silver; the fins are of a bright yellow.

I have two specimens which both measure about three inches.

BALISTES GARNOTI.

Enters in Dr. Gunther's division characterised by "the free portion of the tail compressed; teeth white, uneven, deeply notched; no groove in front of the eyes, of a protruded sort; species inhabiting China, Japan, India, the Cape of Good Hope, the Western coast of Africa, the West Indies, and appearing occasionally on the British coast."

The form is short and high; the height of the body is contained twice in the total length of the fish; the head is twice and eight-tenths in the same; the eye three times in the head.

The anterior profile of the head is almost straight, very little concave; it is entirely covered with the same scales as the body; these are rough and armed with minute points; the back is strongly convex; the first dorsal is inserted behind the orbit and very little in advance of the base of the pectoral; its spine is strong and straight, and is a little over one-half the height of the body; it presents in front a double series of broad, compressed, bifide spinulets; it is sharp at its extremity, and has a deep longitudinal groove on its posterior surface; on this side also it presents on each side a series of blunt spinulets, which run obliquely downwards and join the anterior series; the space behind the posterior series is covered with longitudinal striæ; the second dorsal spine is a little over one-third of the first, and is joined to

it by a membrane about as high as it is itself ; the third spine is very short and wide apart, being placed from the second at a distance equal to the diameter of the orbit ; it is joined to the precedent spine by a very low membrane ; the second dorsal is rather high, triangular, and formed of twenty-two rays ; the caudal is as long as the snout, rounded at its extremity, formed of twelve rays, several of which are much thicker than the others ; anal of the same form as the second dorsal, of nineteen rays ; the pectorals are formed of fifteen rays ; the pelvic bone is covered with very strong irregular spinulets, and is ended by a similar ventral spine.

The colour is of a light yellowish brown, darker on the back ; this part presents faint traces of annular spots ; the base of the second dorsal has also traces of brown spots, and at the base of the anal there are one or two very irregular obscure blotches ; on each side there is a very faint brown line, which bifurcates itself towards the middle of the body in two oblique branches, one running to the posterior edge of the dorsal, and the other to the one of the anal ; the fins are of a bright yellow.

My unique specimen is only one and a half inches long, and I should have hesitated to establish a species on probably such a young fish, if it had not presented so well defined characters ; it is probable that the very faint traces of spots that it presents change with age.

The disposition of the dorsal spine is very much like those of *B. Azureus*, Lesson (*Voyage de la Coquille, Zool.*, pl. 10, fig. 2) that Dr. Gunther unites with several other sorts, to obtain the result he so much seeks for.

MONACANTHUS BRUNNEUS.

Enters in division characterised by : anal fin with less than forty rays ; dorsal spine with only two series of barbs, which point backwards ; ventral spine anchylosed to the pelvic bone.

Height contained twice and one-third in the total length ; head three times and two-thirds in same ; eye three times in length of head ; body rather elongate, covered entirely with

very fine spines, which give it a velvety appearance. No particular spines on the tail ; snout rather concave in its upper profile ; teeth triangular ; at the upper jaw the lateral ones almost as long as the front ones, but at the lower jaw these are much larger, triangular, and rather arched ; on the side of these is only one broad one on each side, which is pointed in front and rounded behind, and has a bifide appearance ; the space between the two dorsals is convex.

The dorsal spine is broken in my specimen ; it is inserted over the first third of the orbit, it is stout, covered with fine tubercles closely placed one to the other on longitudinal lines, and has on its posterior edge two series of tuberculous, short, thick, conical spines, which, towards the base, extend to the middle of the breadth of the spine ; the second ray is very visible ; the dorsal begins at the height of the ventral spine, it is formed of thirty-five rays. Caudal about two-thirds as long as the snout, rounded at its extremity, of seven strong rays ; anal beginning behind the dorsal, of twenty-seven rays ; it has, as is also the case with the dorsal, its broadest part of about one-fourth of its length ; pectorals of fifteen rays ; they have once and a half the length of the orbit.

The ventral spine is formed of a small knob of spinules, with a few longer ones on the sides, and four still much longer ones directed obliquely, two forwards and two backwards.

General colour of a chocolate brown ; caudal similar, with its posterior margin white ; dorsal and anal pink ; pectorals of a light brown.

Length of specimen three inches and a half.